

Swine Influenza (H1N1): Investigation and Interim Recommendations

To: Vermont Healthcare Providers, Hospital Emergency Departments, and Clinical Laboratories

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Background

The Centers for Disease Control and Prevention (CDC), in collaboration with public health officials in several states, is investigating cases of febrile respiratory illness caused by swine influenza (H1N1) viruses. Laboratory confirmed cases of swine influenza infection have been identified in several states as well as in Mexico. The outbreak is ongoing and additional cases are expected. At this time, there are no confirmed cases in Vermont.

Swine flu viruses normally cause respiratory disease in pigs; however, human infections with swine flu do occur, but rarely. The swine influenza A (H1N1) virus that has infected humans in the U.S. and Mexico is a novel influenza A virus that has not previously been identified in North America. Investigations of these cases suggest that on-going human-to-human transmission of swine influenza A (H1N1) virus is occurring.

The Vermont Department of Health recommends:

- Consider the possibility of swine influenza virus infections in patients presenting with febrile respiratory illness who have traveled to affected areas, or who have been in contact with ill persons from affected areas, in the 7 days prior to their illness onset.
- If swine flu is suspected based on febrile respiratory illness and travel history (see CDC case definitions below), clinicians should follow appropriate precautions and use an N95 mask to obtain a throat or nasopharyngeal swab for swine influenza testing.
- Place the specimen in viral transport media (preferred) or sterile diluent, refrigerate, and call the Vermont Department Health at 802-863-7240, or toll-free at 800-640-4374. Testing will be performed at the Vermont Department of Health Laboratory.
- Promptly report patients with febrile respiratory illness and travel history discussed above to the Vermont Department of Health 24/7 at 802-863-7240, or toll-free at 800-640-4374.
- CDC has posted swine influenza A (H1N1) treatment recommendations for confirmed and suspect cases (see CDC guidance below). Currently, oseltamivir or zanamivir is recommended

for the treatment of infection with swine influenza viruses. The swine influenza A (H1N1) viruses are resistant to amantadine and rimantadine.

- Encourage hand hygiene, cough etiquette, and staying home when sick to prevent the spread of illness.
- **Remain alert to additional changes in recommendations as the outbreak progresses.** Please refer to the Vermont Department of Health website <http://healthvermont.gov/> or the CDC website <http://cdc.gov/swineflu/> for up-to-date information on this emerging outbreak.

INFORMATION FROM CDC

Interim Guidance on Case Definitions to be Used For Investigations of Swine Influenza A (H1N1) Cases

The following case definitions are for the purpose of investigations of suspected, probable, and confirmed cases of swine influenza A (H1N1) virus infection.

Definitions of Respiratory Illness

1. Acute respiratory illness
Recent onset of at least two of the following:
 1. rhinorrhea or nasal congestion
 2. sore throat
 3. cough
 4. fever or feverishness
2. Influenza-like illness: fever $>37.8^{\circ}\text{C}$ (100°F) plus cough or sore throat

Case Definitions for Infection with Swine Influenza A (H1N1) Virus

1. A Confirmed case of swine influenza A (H1N1) virus infection is defined as a person with an acute respiratory illness with laboratory confirmed swine influenza A (H1N1) virus infection at CDC by one or more of the following tests:
 1. real-time RT-PCR
 2. viral culture
 3. four-fold rise in swine influenza A (H1N1) virus specific neutralizing antibodies
2. A Probable case of swine influenza A (H1N1) virus infection is defined as a person with an acute respiratory illness with an influenza test that is positive for influenza A, but H1 and H3 negative.
3. A Suspected case of swine influenza A (H1N1) virus infection is defined as:
 1. A person with an acute respiratory illness who was a close contact to a confirmed case of swine influenza A (H1N1) virus infection while the case was ill **OR**
 2. A person with an acute respiratory illness with a recent history of contact with an animal with confirmed or suspected swine influenza A (H1N1) virus infection **OR**
 3. A person with an acute respiratory illness who has traveled to an area where there are confirmed cases of swine influenza A (H1N1) within 7 days of suspect case's illness onset.

Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection in a Healthcare Setting

Illness signs and symptoms have consisted of influenza-like illness - fever and respiratory tract illness (cough, sore throat, runny nose), headache, muscle aches - and some cases have had vomiting and diarrhea. However, cases of severe respiratory disease, including fatal outcomes, have been reported in Mexico. The potential for exacerbation of underlying chronic medical conditions or invasive bacterial infection with swine influenza virus infection should be considered.

INTERIM RECOMMENDATIONS

For clinical care or collection of respiratory specimens from a symptomatic individual who is a confirmed or a suspected case of swine influenza A (H1N1) virus infection:

Infectious Period

Persons with swine influenza A (H1N1) virus infection should be considered potentially contagious for up to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, might potentially be contagious for longer periods. The duration of infectiousness might vary by swine influenza A (H1N1) virus strain.

Non-hospitalized ill persons who are a confirmed or suspected case of swine influenza A (H1N1) virus infection are recommended to stay at home (voluntary isolation) for at least the first 7 days after illness onset except to seek medical care.

Interim Guidance on Antiviral Recommendations for Patients with Confirmed or Suspected Swine Influenza A (H1N1) Virus Infection

High-risk group for complications of influenza is defined as: a person who is at high-risk for complications of seasonal influenza: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr57e717a1.htm>. However, it too early to ascertain what persons are at high-risk for complications of swine influenza A (H1N1) virus infection. This guidance will be updated as new information is available.

Special Considerations for Children

Aspirin or aspirin-containing products (e.g. bismuth subsalicylate – Pepto Bismol) should not be administered to any confirmed or suspected ill case of swine influenza A (H1N1) virus infection aged 18 years old and younger due to the risk of Reye syndrome. For relief of fever, other anti-pyretic medications are recommended such as acetaminophen or non steroidal anti-inflammatory drugs.

Antiviral Treatment

Suspected Cases

Empiric antiviral treatment is recommended for any ill person **suspected** to have swine influenza A (H1N1) virus infection. Antiviral treatment with either zanamivir alone or with a combination of oseltamivir and either amantadine or rimantadine should be initiated as soon as possible after the onset of symptoms. Recommended duration of treatment is five days. Recommendations for use of antivirals may change as data on antiviral susceptibilities become available. **Antiviral doses and schedules recommended for treatment of swine influenza A (H1N1) virus infection are the same as those recommended for seasonal influenza:**

<http://www.cdc.gov/flu/professionals/antivirals/dosagetable.htm#table>

Confirmed Cases

For antiviral treatment of a confirmed case of swine influenza A (H1N1) virus infection, either oseltamivir or zanamivir may be administered. Recommended duration of treatment is five days. These same antivirals should be considered for treatment of cases that test positive for influenza A but test negative for seasonal influenza viruses H3 and H1 by PCR.

Antiviral Chemoprophylaxis

For antiviral chemoprophylaxis of swine influenza A (H1N1) virus infection, either oseltamivir or zanamivir are recommended. Duration of antiviral chemoprophylaxis is 7 days after the last known exposure to an ill confirmed case of swine influenza A (H1N1) virus infection. ***Antiviral dosing and schedules recommended for chemoprophylaxis of swine influenza A (H1N1) virus infection are the same as those recommended for seasonal influenza:***

<http://www.cdc.gov/flu/professionals/antivirals/dosagetable.htm#table>

Antiviral chemoprophylaxis (pre-exposure or post-exposure) with either oseltamivir or zanamivir is ***recommended*** for the following individuals:

1. Household close contacts who are at high-risk for complications of influenza (persons with certain chronic medical conditions, elderly) of a confirmed or suspected case.
2. School children who are at high-risk for complications of influenza (persons with certain chronic medical conditions) who had close contact (face-to-face) with a confirmed or suspected case.
3. Travelers to Mexico who are at high-risk for complications of influenza (persons with certain chronic medical conditions, elderly).
4. Border workers (Mexico) who are at high-risk for complications of influenza (persons with certain chronic medical conditions, elderly).
5. Health care workers or public health workers who had unprotected close contact with an ill confirmed case of swine influenza A (H1N1) virus infection during the case's infectious period.

Antiviral chemoprophylaxis (pre-exposure or post-exposure) with either oseltamivir or zanamivir can be ***considered*** for the following:

1. Any health care worker who is at high-risk for complications of influenza (persons with certain chronic medical conditions, elderly) who is working in an area with confirmed swine influenza A (H1N1) cases, and who is caring for patients with any acute febrile respiratory illness.

Adverse events and contraindications

For further information about influenza antiviral medications, including contraindications, and adverse effects, please see the following:

<http://www.cdc.gov/flu/professionals/antivirals/side-effects.htm>

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5707a1.htm>

For more information concerning swine flu infection, please visit <http://www.cdc.gov/swineflu/> or <http://healthvermont.gov>.